

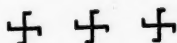
# RECORDS <sup>OF</sup> THE PAST

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## AMONG THE SUN-TEMPLES OF COELE-SYRIA

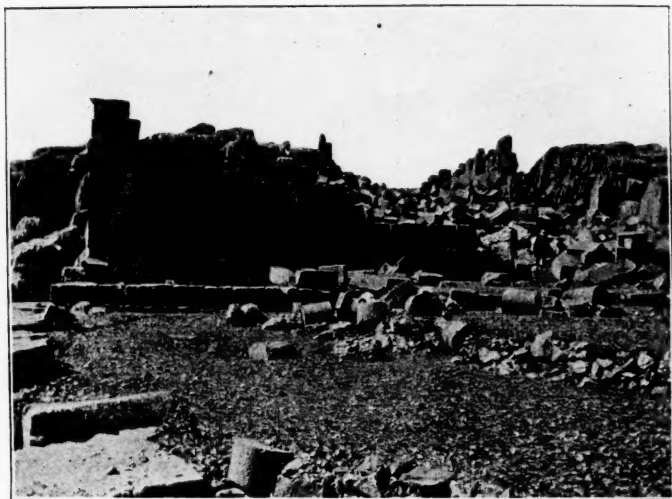
A JOURNEY to the marvelous ruins of Baalbek is one of the tours which modern appliances are bringing down from the domain of the favored and enterprising explorer, and placing within the reach if not always within the appreciation, of the ordinary tourist. The railroad from Beirut to Damascus deposits the traveler at noon at the junction at Reyak, whence, after a comfortable meal in the station restaurant, another train on the new branch north throughout the length of the superb plain of the Bik'a or Valley of Coele-Syria to Hôrus (Emesa) and Hama (Hamath), carries him in a couple of hours more to the Baalbek station. His quarters at the Grand New Hotel will be as comfortable as in the best at Beirut, at no greater expense, and the tourist who is simply "doing Syria" can walk over to the ruins, spend the rest of the afternoon and the following morning, there and in the afternoon board the train for Damascus. The vast courts, the prodigious sub-structures, the incredibly massive and sumptuous colonades will all be courteously shown by Mr. Michel A. Alouf, the polite curator left in charge by the German excavators, who have added so much to the beauty and interest of the ruins.

It is certainly not to be regretted that this wonder of the world has been brought within easy reach of the ordinary tourist, still less that German science and archæological enterprise backed by the

munificence of the Kaiser, have rescued much that was exposed to neglect and vandalism, and uncovered vastly more of wonderful beauty, revealing the symmetry of the whole design, and—equally marvelous with the prodigious grandeur of the mass—the exquisitely delicate perfection of the finish. Nevertheless there is something vulgarizing, that the archæologist and historian cannot but regret, in the arrival of the conventional tourist crowd, with its unavoidable, and in the Orient especially, repulsive accompaniments of blatant dragomans, multitudinous beggars and the attendant rabble clamorous for bakshish. The prodigy is there, to be stared at, wondered at, its blocks of stone nearly 70 ft. in length by 15 ft. in height and 15 ft. in thickness will provoke perennial amazement. Perhaps the splendor of design and the unrivaled richness of the sculpture, the granite columns from Egypt, the exquisite needle-point tracery in stone of interior decoration alternating with the magnificent reliefs of cornice and entablature, will excite to an equal pitch the æsthetic sense. But what significance will the spectacle have, as related to the period and to the geographical, religious and political conditions which produced this marvel? For Baalbek is not simply an isolated, unintelligible wonder. Dr. Hoskins of Beirut, joint author with Professor Libbey of Princeton, of *The Jordan Valley and Petra*, an archæologist whose capacity and opportunity for studying this question are unsurpassed, estimates that within a radius of 20 miles of Baalbek, on the slopes of Lebanon and Anti-Lebanon there are at least 15 ruined sun-temples, the grandeur and beauty of which would have made them famous but for the surpassing splendor of Baalbek.

However well it may be, then, to board the train at Beirut and stop over a day at Baalbek on the road to Damascus, the traveler who proceeds thus is deceived indeed if he imagines he sees what the older explorer saw, who went with horses, mules and tents, camping among the glorious mountain ravines, scaling the heights of Lebanon crowned here and there by splendid temples, kindling his fires beside the rivers that here gush full-born out of subterranean reservoirs deep under the mountain itself through their strange water-worn tunnels, or spreading his tent on the platform of some noble remnant of Greek architecture expressive of all the ardor of Syrian religious faith, under the unparalleled prosperity of Rome's iron rule.

The present writer will not soon forget the impressions of such amping tours up the glorious Alpine valley of the Nahr Ibrahim, the Adonis river of the ancients. We went a-foot exploring among its ruined temples and rock-cut altars from where the Aca is annually incarnadined with the mythic "blood of Adonis" issuing from the deep ravine, to where, 5,000 ft. above, the crystal waters rush from a huge cavern in the perpendicular face of the mountain and plunge in three successive cataracts into the clear deep pool beside which stand the ruins of the famous temple of Venus destroyed by Constantine. Tents and baggage went their own way to the appointed rendezvous, while the three travelers scrambled over hill and down



RUINED TEMPLE OF KAL 'AT 'L FAKRA

*Photograph by G. S. Driver*

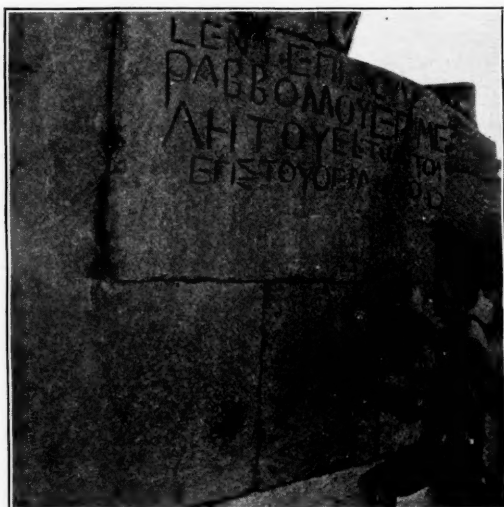
dale. It would be hard to say which gave keenest pleasure, the glorious rainless air and splendid scenery as we pushed our way up the pathless slopes, leaped from rock to rock across the stream and rested under the pines; or the atmosphere of history, myth and romance from the Phœnician, Greek and Roman times, clinging to every ruin, every cutting in the rock, shadowing each grotto and cool recess with a veil of mystery; or yet again our encounters with the curious and superstitious, but kindly and hospitable natives.

A more extensive tour, in more luxurious style, on horse-back with two tents, cook and complete traveling outfit of camp bedsteads, chairs, table, china and the like was that enjoyed under the leadership of Prof. A. E. Day of the Syrian Protestant College, Beirut, in company with the veteran geologist and traveler Prof. G. Frederick Wright, of Oberlin, and Dr. George H. Driver, fellow of Yale Divinity School in attendance at the Palestine branch of the American Institute of Archæology, during the week October 26-November 2, 1905. This included a ride up the famous Dog river (Lycus) valley adorned at its mouth with the sculptured records of successive Egyptian, Assyrian, Roman and Arab conquerors, thence through the fantastic limestone pinnacles, the quaint native villages with their vineyards and mulberry plantations clothing the bare slopes; up the northern branch of the river to the famous Natural Bridge on the northwest flank of lofty Sannin, and so over the divide to the valley of the Adonis and the temple of Venus at Afka (Aphék, Jos. xiii, 4) already described.

The chief point of archæological interest in the Dog river valley is the group of mighty ruins crowning its very summit at the

point just above the running stream gushing from the great spring Neba'l Leban. Here the eye sweeps backward down the great valleys to where Beirut on its promontory is seen through the clear atmosphere 30 miles away and southward the miles of yellow sand along the shore.

Here at the so-called Kal 'at'l Fakra is a splendid sun-temple, its inner sanctuary measuring some 50 ft. by 100 ft., its walls built right across the limestone ridge, cut through for the purpose, so that its portal fronts the rising sun (E.  $10^{\circ}$  S)\* and its court is walled by the living rock. A few hundred yards to the north be-

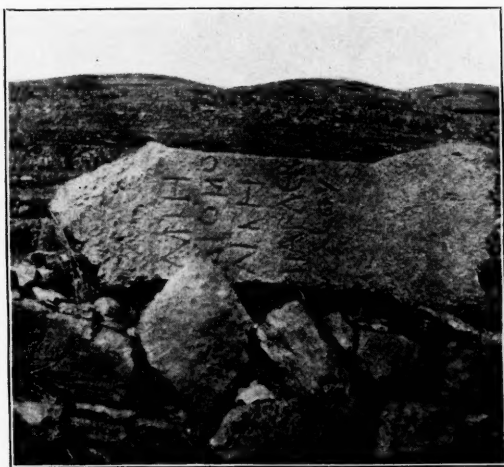


INSCRIPTION ON CORNER STONE OF THE TOWER

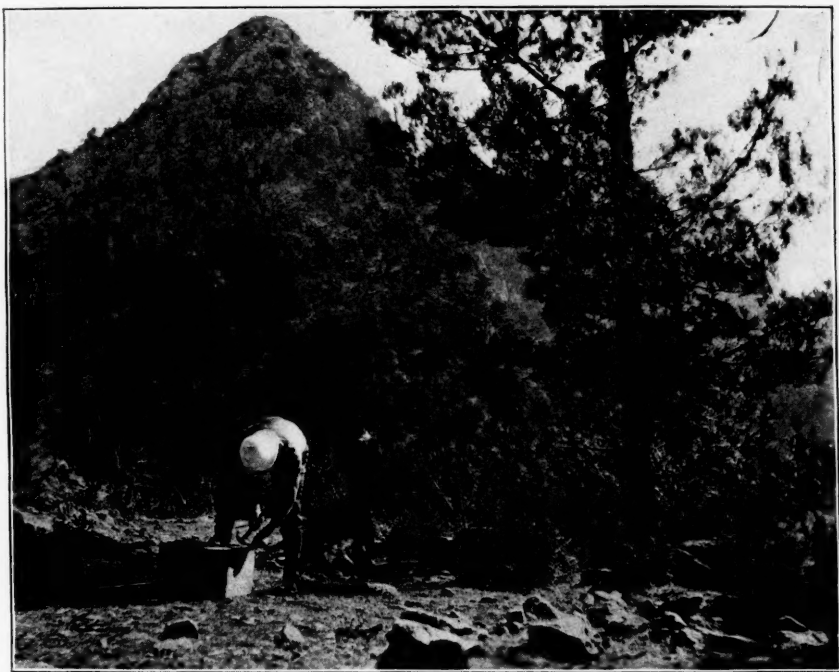
yond a clear running brook rises a massive tower whose corner stone bears a Greek inscription recording its creation in the year 355 (of the era of Antioch?) "from the funds of the greatest God." In the field a short distance away we found a plinth bearing the dedicatory inscription "To the Zeus of Heliopolis [Baalbek] from Hermes" which made it evident what divinity was worshipped here.

Ten minutes' ride over the ridge brought us to one of Nature's world-wonders, the vast arch of the Natural Bridge more symmetrical and of wider span than that of Virginia, but lacking at this season the beauty of running water and living green. Here, as where 3 weeks before I had camped on the platform of the Greek Temple at El Frat, where a pine-clad promontory juts out over the deep ravine of the Adonis, just where the view is most enchanting up and down the valley, and the rising sun gilds the summit of a bold high peak

\* This orientation is universal among the sun-temples of Lebanon and Coele-Syria though not always exact. It is explained by what Josephus writes regarding the orientation of the Tabernacle (Ant. iii, 6, 3), which of course applied equally to the temple fronting the Mount of Olives: "The tabernacle fronted the east, that when the sun rose it might send its first beams into it." The cella was of course lighted from the portal.



INSCRIPTION AT KAL'AT 'L FAKRA



PLATFORM OF GREEK TEMPLE AT EL FRAT

*Photograph by B. W. Bacon*





SOURCE OF THE ADONIS AND TEMPLE OF VENUS, AT AFKA

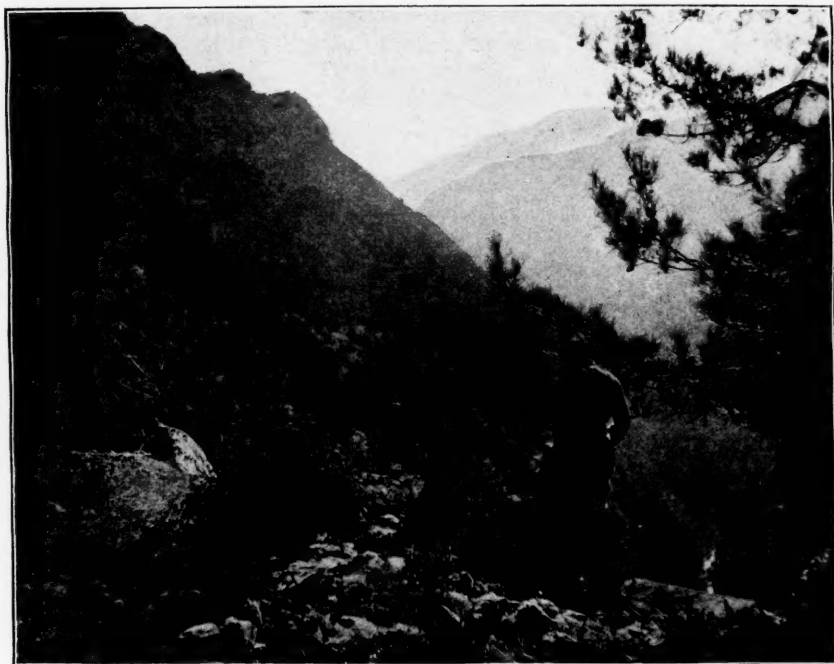
*Photograph by B. W. Bacon*

overhanging on the northeast, one could not doubt the æsthetic interest of the builders of these wondrous triumphs of architectural skill in the beauty of scenery about them.\*

So we traveled from the Dog river valley across to the Adonis and Afka with its splendid scenery and ruins. But this time we could make no stop. Our equipage had been dispatched in advance and we must press on across another natural bridge at Akura to the high divide between the valley of the Adonis and (grandest of all in Lebanon) the valley of the Kadisha. This we ascended to where the noble grove of cedars, last remnant of "the glory of Lebanon" adorns its upper amphitheater, pitching our camp for a Sunday under "the Cedars which the Lord planted" (Ps. CIV, 16) whose solemn stillness and venerable majesty has impressed all hearts, pagan and Christian, in ancient and modern times, with a sense of religious awe.

Only the tourist vandal is impervious to reverence or shame. Here are perhaps 400 majestic trees in one group sole survivors in all this treeless region of the mighty forests whence the palaces and

\* In spite of the Homeric descriptions of natural scenery the appreciation of the ancients for beauties of landscape is often doubted. The choice of sites for the temples of Lebanon would be almost a sufficient refutation in itself alone. On this point compare the observations of Curtis *Primitive Semitic Religions* p. 105. Also, *ibid.* on present-day sun-worship in Syria, especially among the Nusairiyeh.



RAVINE OF THE ADONIS FROM EL FRAT

*Photograph by B. W. Bacon*

temples of Assyria and Palestine, and the fleets of Phœnicia, obtained their choicest material. Scarcely one of the finer trees has escaped the hatchet of the transient camper and tourist, eager to "write himself down an ass." Some of the largest and finest trees have no less than a dozen "blazes" of from 6 inches to a foot square, or more, hewn in the living bark to record that "— officer Russe" visited the place in "1901" and the like. The natives, out of their poverty, have surrounded the grove with a wall of substantial masonry with iron gates. A little stone chapel, with warden's house adjoining, attests their reverence for the still sacred grove, and a polite request to abstain from all injury to the trees—the desire of the proprietors to check the ravages which they are powerless altogether to prevent. Sins enough of vandalism are laid at the Syrian native's door, to most of which he is incited by the tourist's insatiable craving for "antikas;" but sometimes, as at the Cedars, the true incidence of the blame appears.

Monday's ride took us to the highest summits of Lebanon, more than 10,000 ft. above the sea, and still covered with patches of the preceding winter's snow, then after our eyes had feasted on the view across the great plain to Anti-Lebanon, with Hermon ending the mighty wall on the south, then back over the amphitheater of the

Cedars, and down the great gorge of the Kadisha to Tripoli and the sea, we picked our way, sometimes leading, sometimes riding our horses, down the Coele-Syrian side toward Baalbek.

Before the plain is reached one enters a long parallel valley among the foot-hills, well watered by one of the great brooks which everywhere in Lebanon burst out from under the mountain's roots, full grown at birth. At its farther end toward the south lies the great basin, or Lake of Yammūneh, fed, not by the brooks already mentioned, whose waters were exhausted some miles back in irrigation, but by a new and far mightier stream, bursting out in a hundred great springs at the mountain's base, forming first a broad, crystal pool in the midst of which stands an island mound of perhaps an acre in extent, then, the streams all joining within a few hundred yards a river some 20 yards across and a foot or two in depth. This river flows first for about half a mile across the dry lake bottom, then disappears forever in some subterranean channel. In the rainy season there is a broad lake surrounded by the mountains, in the late autumn a broad dry basin the strange river rippling across its bottom at whose source stands the beautiful island permanently above the level of the lake surrounded even now by the streams and pools. Occupying the whole extent of this island are the majestic ruins of a great sun-temple, its lower platform of huge limestone blocks a rectangle some 300 ft. by 225 ft. in extent. Remnants of the great portal occupy the highest of 7 successive terraces, facing the exact point where the rising sun first becomes visible over the eastern ridge. Fragments of marble and sculptured limestone attest the beauty of the shrine, while the massive blocks that remain of the foundations and the steps ascending to the great altar seem to defy even the ravages of the quarrymen who are busily engaged in breaking up the choicer blocks for the village houses and cemetery.

A night beside the rippling stream and we were off again crossing the ridge which separates the Yammūneh valley from the Bik'a, dismounting again at the summit in front of a smaller ruined shrine, and vainly endeavoring to decipher the weather-worn Greek inscription on its altar base.

At Baalbek our paths diverged, the elder geologist and student going on to Damascus, after a visit to the ruins, the younger geologist returning to his work in Beirut, while the remaining member of the party lingered at Zahleh to inspect the typical ruins at Niha, an hour's ride north from Zahleh among the foothills of the eastern slope of Lebanon.

By the village of Niha, below, stands a temple whose massive blocks recall in outline and dimensions the prodigious structure of the Antonine emperors at Baalbek, though the temple itself is of small proportions. But the traveler can well afford to pass by this lower temple and the tumbled blocks in the stream bed below it, for the sake of what awaits him above. The horses scramble up the opposite side of the steep wady the ascent giving even more entrancing



views of the distant range of Anti-Lebanon, the broad, rich plain of Cœle-Syria and the nearer flanks of the fertile ravine clothed with terraced vineyards. Then all at once, some 300 ft. above the village and lower temple the path reaches the outcropping ledge of a harder limestone which walls in the valley across its western end, except where a deep notch has been cut by the torrent in its precipitous face. No passage seems possible till suddenly there opens a rock-hewn passage cut clean through the ridge by Græco-Roman engineers, and one enters a great amphitheater of surrounding hills, on a spur of whose further slope, facing the east, stands the great temple of Kal'at Niha, or El Hosn, its subsidiary shrines, courts and altars in front, behind

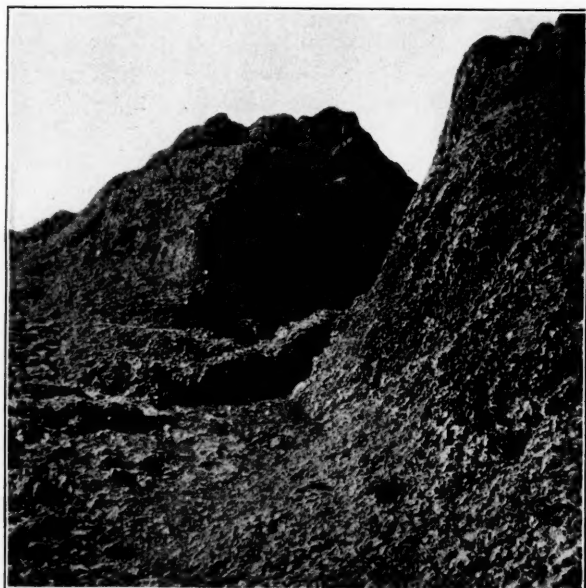


PRONAOS, KAL 'AT NIHA

*Photograph by G. C. Doolittle*

it the ruins of dwellings and similar structures. Lonely and desolate it stands in the deserted valley, its grey limestone mass blending indistinguishably with the bare rock around, only the indescribably rich tints of the Syrian landscape veiling its desolation with strange beauty.

We wander beneath the huge portal, whose sides and lintel are formed of massive monoliths more than 15 ft. in length and 4 ft. to 6 ft. in breadth and thickness, an interior staircase hewn out of the solid mass of the blocks leading to the fallen roof. From the top of the wall we overlook the fallen columns and the capitals with their sculptured lotus flowers, the exquisite altar with shallow niches cut in each of its four sides, dedicated in a Latin inscription by those who



ROCK-CUTTING IN ROMAN ROAD TO KAL 'AT NIHA

*Photograph by G. C. Doolittle*

had assumed vows to the "avenging gods," the fragments of paneled ceiling adorned with sculptured busts, as at Baalbek, the prodigious fallen blocks of cornice and engaged pilasters, but beyond the eye sweeps across the inner valley, to where the torrent has cut its V-shaped notch through the cliff, and so out across the vast plain below to the purple range of Anti-Lebanon in the distance. Again we are fronting the rising sun, gazing on a scene such as few spots on earth can rival speaking even in its desolation to every human heart in irrepressible tones of the beauty and glory of nature.

These are but examples of the sun temples of Lebanon, scattered from Hermon on the south, adorned all round its flanks with similar rich shrines, to where among the northern foothills the Nu-sairiyeh still practice their worship of the sun in strange pagan rites. Detailed description would only repeat what earlier travelers have given more exactly,—Robinson the pioneer of modern Palestinian research, and Warren the angel of the measuring reed. For description of the temples of Lebanon in their surroundings the reader must be referred to Robinson's *Biblical Researches*. Details of measurements and architectural features are given by Warren in the article *Temples of Cæle-Syria* *P. E. F. Quarterly* for 1870, p. 184. Renan's *Mission en Phénicie* gives exact plans and drawings of nearly all which adorn the western slope of Lebanon.

Our present endeavor is rather to look at the phenomenon of this prodigious expression of religious ardor as a whole and recognize, so far as we may, its historical significance.

Why should this seemingly remote and to all outward appearance, bleak and sterile province of Syria, a mere ridge of bald limestone rock divided by one long valley and broken by steep ravines, only a ruined wall of Nature between sea and desert, be more richly endowed by Roman emperors than Rome itself with temples of surpassing grandeur and opulence? Why should those of Greece herself be made to seem poor and Egypt's colossal masonry no longer unique in comparison? One striking fact becomes obvious upon the most superficial comparison, and is confirmed by the inscriptions wherever deciphered. These magnificent structures from Baalbek itself, down to its smallest satellite, all belong to one period, beginning with the Flavian emperors, the period of Rome's great struggle with



SOUTH SIDE OF TEMPLE AT KAL'AT NIHA

*Photograph by G. C. Doolittle*

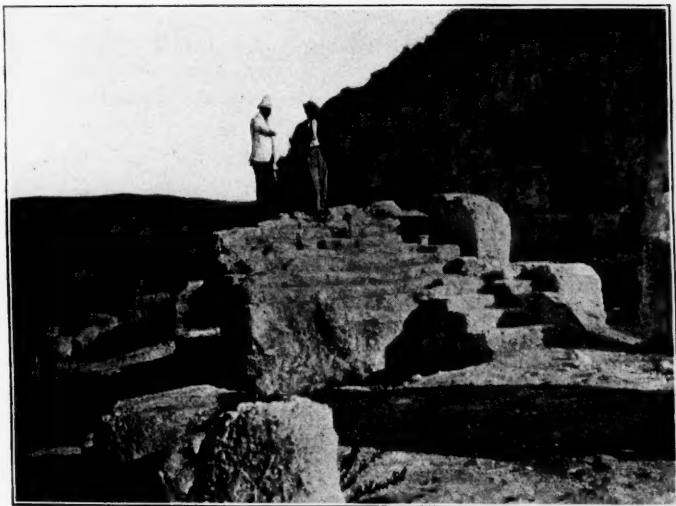
the new religion, born in Syria, defying already the demands of Rome's one established cult, the worship of the genius of Cæsar, and destined soon to usurp the throne of the emperors. It ends even more abruptly with violent destruction. The ruined temple at Afka bears silent and pathetic witness to the truth of Eusebius' report concerning its fate. Robinson had already remarked how its walls thrown violently outward as if by concerted effort from within, its granite columns transported across the sea and up these 5,000 ft. of rugged mountain roads, to be tumbled ignominiously down the slope, confirm the words of eulogy with which the Christian Bishop of Cæsarea commends the emperor's zeal in eradicating by this violence the sensual superstitions practiced at the place. Even more eloquent,

though without confirmation of historical record, are the fire-scorched walls of Kal 'at'l Fakra. Here, where the traveler brings with him from Beirut fuel to cook a meal and every splinter of wood is precious, the whole interior of the sanctuary has been ravaged by fire so intense as to scale off the inner surface of the stone, cracking the huge blocks, and changing the blue or greenish yellow of the limestone to brick-red. Such a conflagration was not accidental. In a country where doors and household implements, to say nothing of walls and interior finishings, are made of sculptured stone, accidental fires are almost unknown, or, if they occur, their ravages are speedily repaired. But here the destruction was complete and there is not an effort at repair. As the dedicatory inscription links el Fakra with Baalbek in its worship, so the proofs of its violent fate link it with Afka and the many unnamed temples which Constantine, according to our historian, doomed to the same destruction, or Justinian delivered over to Christian hands to be "transformed into churches, or, if not, destroyed."

Three centuries at the utmost is the period which witnessed this amazing development of religious architecture in Syria, the same 3 centuries which witnessed the birth and development into a faith dominant over the civilized world of the greatest of the 3 world religions Syria has cradled. Not that older temples of Phœnician or even Hittite origin did not previously occupy these sites. The ruined temple of Eshmun at Sidon erected (or rebuilt?) by Abd-Astart in the IV Century B. C. stands, an unaltered, uncorrupted witness of Phœnician temple architecture. Herod's temple at Jerusalem may even have served as model for some of the features of the great inner and outer courts at Baalbek. But as they stand freed from the smaller churches of the Byzantine period erected within, upon and out of their ruins, and from the still meaner structures of Arab fortification in the period of the Crusades or later, these prodigies of wealth, architectural skill and glyptic art are Roman, of the period from Trajan to Constantine. What then is their significance for the history of the world?

Perhaps the strongest impression made upon the practical-minded traveler is the enormous wealth attested by such prodigious public work in a land that to the eye, especially after the disappearance of the ephemeral green of spring, presents nothing but a boundless expanse of bare rock and stony slopes. The Arab word for the upper mountain slopes signifies "scraped" and as one coasts along observantly from Tripoli to Beirut, Haifa and Jaffa, the whole appearance of the coast, save for the dwellings and roads, so much more frequent than on the desolate shores of Greece, is bare and barren in the extreme. The boundary stone of Hadrian recently found near Zahleh, not far from the Temple of Niha, gives the "*definitis silvarum*" or boundary of the forest-reserve of that wise emperor, and so attests the attention of the Roman authorities, at the beginning

of that prosperous period of which we speak, to the vital necessity of sylvi-culture. Doubtless the Cedars of Lebanon were not then reduced to the two patches of a half dozen acres in extent which now survive. Pine groves richer than the natural woods of the Nahr Ibrahim or the recently planted slopes and barriers near Beirut, would then have been far more frequent and extensive than now. Instead of the few stunted bushes of oak, gnawed by the goats, and consigned to the eager charcoal burner's pit as soon as they have reached the thickness of a man's arm, there would have been, at least here and there, real forests, such as clothe the hillsides of Gilead, and retain through the 8 months of rainless summer something of the moisture of the winter rain. As it now is, the whole country resembles a huge carcass not only indeed skinned, but "scraped," till all the bones appear



TEMPLE OF ESHMUN AT SIDON

*Photograph by G. C. Driver*

bare and bleached. From the two central ridges the lateral branches extend east and west like ribs of some great skeleton, hiding only deep in their interstices a little moisture and life. But wherever water can be obtained the disintegrated limestone shows marvelous fertility. The very absence of rain to dissolve and wash away the fertilizing products of its disintegration during the period of vegetation makes the soil the richer; so that irrigation procures from what seems the merest stone heap prodigious crops of wheat. The deep valleys and the broad plain, abundantly watered by irrigation would furnish under any but the worst of governments an extraordinary abundance, the long rainless summer affording to the peasant just the necessary period for storing, threshing and winnowing the grain for which he has neither storechamber nor barn. But cultivation is by no means confined to the irrigated land. Up to the very summit



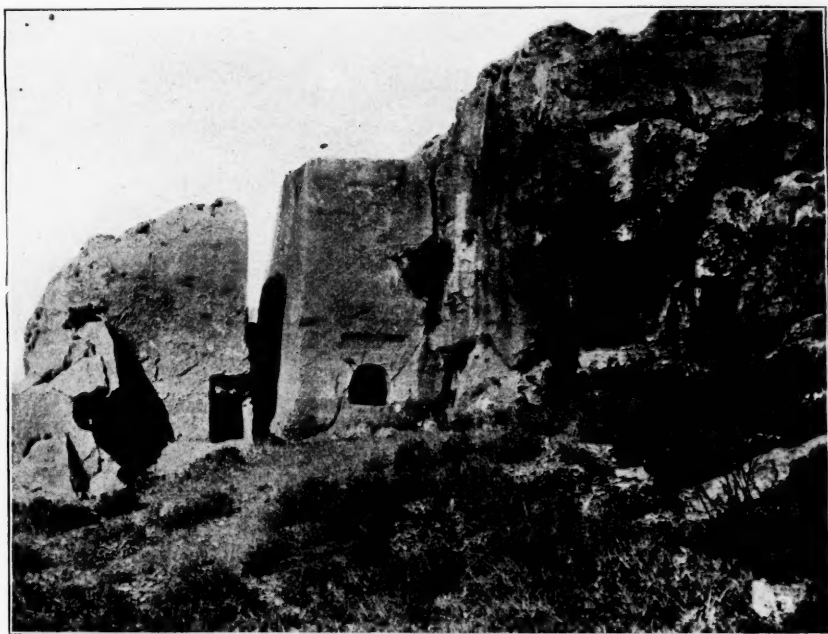
in many cases, up to the "scraped" cliffs in nearly all, the soil is industriously terraced and planted with vines and mulberry trees. Two crops of mulberry leaves a year are gathered, the first as food for silk-worms, the second as fodder for the sheep, the leaves of the mulberry actually taking the place of the grass of northern climes. And then the vine, the generous, noble vine,—no drop of water is vouchsafed it, save that it drinks from heaven; and yet it flourishes in rich, luxurious green far up the rocky slopes and over the very tops of the mountains, throughout the long drought while all else is bare and brown; and at the end it pours out its fruit in gigantic clusters unparalleled elsewhere. It is not for wine that vineyards are cultivated in Syria. The native makes no use of it and does not care for it. If he drinks it is *arak*, not wine, that tempts his palate. But after the ripening of the fruit in September and October there is still time before the rains for the drying of grapes and figs, and these with olives and bread, goats milk and flesh and the products of the flock, suffice. Do we wonder that the symbols of Ceres and Dionysus the sheaf and the clustered vine, should form the subject of sculpture in the exquisite carving in the smaller temple at Baalbek?

The forests of Lebanon, such as they were, are gone. But long before their disappearance the native had learned from Nature herself how to imitate and thus dispense with their chief function, retention of the moisture, and to make of the mountains themselves reservoirs of snow and rain. The rock-cut cistern and aqueduct—these are the secret of vegetable and animal life throughout Syria in ancient and modern times. Nature herself has led the way by her vast reservoirs hollowed out under the upper peaks in huge caverns where the melting snows flow down and accumulate to discharge through strange unexplored tunnels burrowed for miles by the dissolving action of the water on the limestone rock, until they issue all at once in great rivers from caverns in the mountain side as at Afka and Baniyas (Cæsarea Philippi at the foot of Hermon) or streams like the famous Ras el Ain at Baalbek. One may almost say in general in this topsy-turvy land that the river is largest at the source.

It follows that a country which at first sight seems to offer nothing but bare sunburnt rock, and water, destructive in the period of torrent and flood, fleeting and lost in the period of drought, offers, where its secret has been learned, resources at first undreamed of. When the Roman legions under Hadrian gave security at last against the one unconquerable enemy, the robber hordes of the desert, the secret had been learned for untold centuries. Mesha of Moab and Hezekiah of Judah with their rock-hewn aqueducts tunneled through the mountains did only on the small scale what Phœnician engineers had been doing for centuries before on the large, and what both owed in common to the guidance of Nature herself. From the flint chipping cave dwellers of prehistoric time along all this shore to the troglodyte architecture of Petra and the rock-cut

city of Edrei, the rock-hewn dwellings and tombs of Palestine and Phœnicia and the vast monolithic architecture of Baalbek borrowing the massive grandeur of Egypt and the sumptuous beauty of Greece, the transition is regular, a development proscribed by the conditions of the country itself. Fire above, water beneath; and on the bare rock between the unconquerable seed of life—such is the history of Syria through the ages.

But Roman control did more than provide walls of stone against the robber hordes of the desert and furnish the splendid arteries of communication that still remain between all parts making it possible to transport the granite columns of Egypt to adorn the streets of



PHŒNICIAN ROCK-CUT TOMBS NEAR SARAPTA

*Photograph by B. W. Bacon*

Damascus and Palmyra. The *pax Romana*, profoundly appreciated even by Christian fathers who protest against imperial proscription and persecution, spread wealth and settled agricultural prosperity like a wave over the whole Syrian Province. It had been waiting all these centuries for quiet and just government under which to display the worth of the secret wrested from Nature during the long past. Now it blossomed with unheard of prosperity from Antioch to Philadelphia of Ammon, and from Palmyra to the Sea. But Rome, if she carried good government to the East, took from it, as her own poets complain, her religion and her mythology. The Nile and the Orontes emptied into the Tiber. In the East, accordingly, was the real bat-

the ground between Christianity and Paganism. Both went back to their cradle for the decisive combat.

Few can appreciate in modern times how intense and sincere was the reaction and revival of Pagan religion under the beneficent rule of the Antonines, as Papal religion reacted in the XVII Century to check the spread of the Protestant Reformation. Such philosophic emperors as Hadrian, Marcus Aurelius and Julian, the so-called Apostate, were the severest persecutors. And their measures, repressive and otherwise, were not taken in the interest of politics only, but of religion as they understood it, and of philosophy as well. Philosophers and sociologists like Hadrian and Aurelius did not deal with religion in its surface manifestations, its mythological tales, its popu-



ALTAR AT KAL'AT NIHA

*Photograph by G. C. Doolittle*

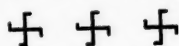
lar legends and superstitions. They made at least the attempt to go down to its roots and real principles. In Syria where so many of the Greek myths, Perseus and Adromeda, Aphrodite and Adonis, Hercules and his labors, had their roots and scene, in Phœnician, the traditional source of letters, the home of nature myths, religion elemental forces of Nature, sun and rain and subterranean stream, seemed in nearer contact with the life of man. Here at all events, as in all ages, the religious feeling seems dominant in the human soul. Religion is and always has been the chief product of the country,

the origin of all its claims to greatness, the source of all its woes. Doubtless in the period when Christianity went forth hence on its white horse "conquering and to conquer" it did not exhaust the religious capacity of the Syrian people. Emperors who found a symbolism of real truth in the thinly disguised Nature worship of the Lebanon Mountains might well lend all the encouragement in their power to native enthusiasm, seeking only to clothe in more philosophic form for themselves and the more enlightened, the rude mythology whose hoary antiquity was no secret to them.

In these two respects the cluster of extraordinary temple ruins whose center is the great temple of Heliopolis or Baalbek, begun by Antoninus Pius, completed by Philip the Arabian priest of Emesa (Hörus) leave deep impress on the thoughtful traveler. The ruins of Philadelphia, Gerasa, Palmyra, the roads and aqueducts which intersect all the country far beyond present limits of cultivation, testify to the amazing outburst of prosperity and wealth that awaited there, and still await the strong hand of firm and just government. The ruined temples with their prodigality of beauty and skill attest the power of religious feeling misdirected but sincere, which springs instinctively from the hearts of this people. Throughout the struggle of Empire and Church it bloomed with all the ardor of expiring paganism and in the struggle perished. On its ruins stand the meaner structures of its antagonist, itself in turn corrupted and overthrown, and ruin and desolation lie waiting till a juster government and purer faith once more make the wilderness to rejoice and blossom as the rose.

BENJAMIN W. BACON.

JERUSALEM, SYRIA, December 20, 1905.



### THE EOLITHIC PROBLEM

TO THE September number of the *American Anthropologist*, Mr. George Grant MacCurdy, Curator of the Yale University Museum, has contributed a noteworthy study of the latest and most contested question bearing upon the subject of the antiquity of man. It is entitled *The Eolithic Problem—Evidences of a Rude Industry Antedating the Paleolithic*. To the accepted divisions of the Age of Stone into the Paleolithic and the Neolithic periods as recently as 1892, Mr. J. Allen Brown, of the English Geological Society, proposed that there be added another division made up of numerous "roughly hewn flakes and nodules and naturally broken stones showing work, with thick ochrous patina, found on the plateaux of chalk and other districts, in beds unconnected with the present valley drainage." To these he suggested that there be given the name of "Eoliths" to indicate their position at the dawn of the Age

of Stone, and this term has been generally adopted for such rude objects by those archaeologists who believe in their human origin.

There is no *a priori* improbability in holding that the earliest implements made and used by man must have been something vastly ruder and simpler than the well-known Chellean Paleolithic implement. Indeed that was the position maintained by the present writer so long ago as 1882, in a paper read before the Boston Society of Natural History, illustrated by numerous specimens found by him in some 9 or 10 widely separated localities in New England.\*

The difficulty lay in persuading archaeologists that such rude objects really exhibited unmistakable evidences of human workmanship. The same has been the fate of the so-called Eolithic implements found in Western Europe. It would take too much space to attempt to relate the history of such discoveries there. To accept them as genuine required of geologists that they should thrust back the appearance of Man upon this globe into the *Tertiary Period*; and this they could not do unless the proof was absolutely convincing. Consequently the *Tertiary Man* has had to face a skeptical world. But his believers are growing more numerous every year, and the archaeological journals of England, France and Germany at the present moment are filled with discussions of both sides of *The Eolithic Problem*.

Mr. MacCurdy's paper is one of the most thorough and satisfactory of any that have appeared. The science of prehistoric archaeology is one not to be learned out of books; it requires of the student extended travel, and the actual inspection and handling of thousands of specimens. This Mr. MacCurdy was able to accomplish in connection with his attendance at the Archaeological and Historical Congress held at Dinant in Belgium, in August, 1903. He first visited some of the English localities, principally in the Chalk Plateau of Kent, and also studied the collection of Eoliths in the British Museum, as well as some in private hands. Crossing to Belgium he spent 11 days with Dr. A. Rutot of the Royal Museum of Natural History in Brussels, dividing his time equally between studying Rutot's collection, numbering thousands of specimens, and work in the field. Rutot is unquestionably the leading exponent of the new views of Man's antiquity; his studies have extended over a period of more than 20 years, and his publications have been very numerous. Together they visited several localities that had furnished Rutot the most convincing proofs of his theories, and of several of these Mr. MacCurdy gives carefully drawn sections, some made in the field, others taken from books. His discussion of the geological position of the *strata* is very convincing, and if the objects themselves can be accepted as of human origin, the Eolithic problem must be regarded as settled. If this is the case, the conclusions drawn by Rutot are

\* *Some Indications of an Early Race of Men in New England.* Proceedings of the Boston Society of Natural History, February 1, 1882.



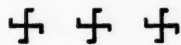
indeed startling, and Man's antiquity is carried back to a past of almost inconceivable extent during a large part of which he appears to have made no progress so far as his implements show, and for a very long period had not attained to the knowledge of fire. But can these objects be accepted as the work of Man? To speak frankly, so far as the figures given by Mr. MacCurdy are concerned, we must pronounce against them. But this does not prove that they are not real; it is necessary to see the objects themselves before forming an opinion. It must be acknowledged, however, that many specialists of the highest distinction have pronounced against them, on the ground that they could have been produced by purely natural causes, such as the action of torrents or of waves, "soil-creep" or others.

Quite recently new light has been shed upon the subject by the alleged discovery that similar objects are produced by the operations of a machine intended to separate the flint nodules from the chalk, in which they are contained, during the process of the manufacture of cement. A sort of artificial whirlpool is set up by the introduction of water into the machine, by which the flint nodules are subjected to every kind of shock and pressure with the result of producing all the so-called Eolithic forms. This has been set forth very clearly in an article by the distinguished French Geologist Marcellin Boule.\* I suppose Mr. MacCurdy's article must have been written before his attention had been directed to these important results, as he makes no allusion to them, but they have been made the subject of numerous articles for and against, in the latest numbers of *Man*, the organ of the Archaeological Institute of Great Britain and Ireland.

To Rutot's system of pre-historic classification Mr. MacCurdy has added certain finds in England, which he has synchronized with it, and he has appended to his article by far the most comprehensive bibliography that has ever been made of the subject. We advise all interested in the question of the antiquity of Man to read this most able presentation of the present *status* of the question. But Mr. MacCurdy admits that his opinion is based upon personal experience, as the only convincing kind of verification and he hopes the result of his paper may be to incite American archaeologists to investigate the problem for themselves.

HENRY W. HAYNES.

BOSTON, MASS.



MAGNIFICENT TOMB OF A KING:—It is reported that the tomb of a king of the II Dynasty has been brought to light by excavations under the direction of the Service des Antiquités at Zawat-el-Aryan, near Abusir. The mummy of Siptah Mineptah is also reported to have been found by Mr. Ayrton.

\* *L'origine des éolithes. L' Anthropologie*, Tom. XVI. July, 1905.

## EXCAVATIONS IN ASHUR\*

### BUILDINGS

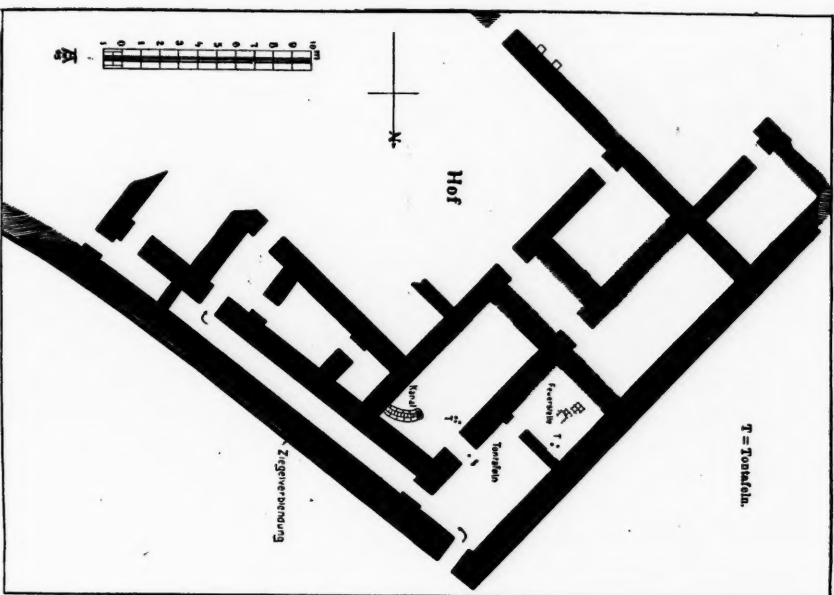
**I**N excavating the buildings along the southern edge of the eastern plateau at Ashur, a method of constructing the foundations of a building, hitherto unobserved, was discovered. The plateau had been covered with a thick layer of debris, and in order to make a solid foundation, walls of brick were sunk down to the rock bottom. (In other cases the area on which a building was to be erected was simply levelled off, and the foundations laid.) On these brick (clay brick) walls a layer of stones was laid, and on these the visible walls of the building.

The foundations of the building here excavated, show that it was built after the plan of the old Babylonian house, known to us from the excavations at Fara. The house was rectangular, 19 by 26 ½ meters, the shorter sides running north and south. The rooms are grouped around a rectangular court. On the south side are two narrow corridors, running east and west which, contrary to the general rule, can be traced in the foundations. As a rule we cannot tell where the entrance to a building was, but here no doubt it was at the southwest end of the outer corridor. (See plan.) One had therefore to pass through this corridor, turn the corner twice before he could get into the court. In other words, this was a precaution for times of danger, and we still find similar necessary precaution in modern oriental houses, as in Bagdad and Damascus. In the plan of the house excavated at Fara, (see plan) one sees the same idea carried out. These foundations without any breaks in them for doors, are also found in the old Babylonian ruins of Telloh and Nippur. In Assyrian times they were used when a building could not be built on solid bottom, but had to be erected where there was a thick layer of debris. Here walls without any breaks had to be sunk deep down through the debris. In late Assyrian times,—Sargon, Sennacherib,—it was customary to level off the ground and build on a heavy clay-brick foundation. On top of the terrace were constructed the regular foundations of the buildings.

In the debris in which the clay-brick foundation of our building lay were found graves of the capsule variety. The gifts for the dead found with these were archaic vessels, glass beads, and perforated mussel-shells in large quantities. Together with these were found anklets and finger rings.

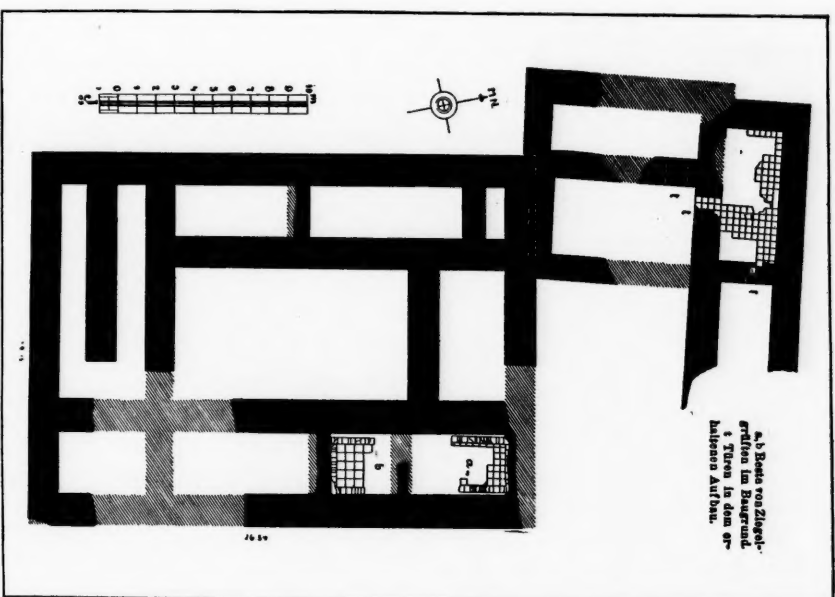
The history of the part of the hill on which our building stood, was as follows: On the bare flint rock there were settlements in pre-historic times. The remains of these are a few traces of fireplaces, and pieces of clay vessels with black and red geometrical designs.

\* Translated and condensed by Mr. D. D. Luckenbill from the reports of the German Oriental Society for RECORDS OF THE PAST. See also RECORDS OF THE PAST Vol. V, Part I, Jan., 1906.



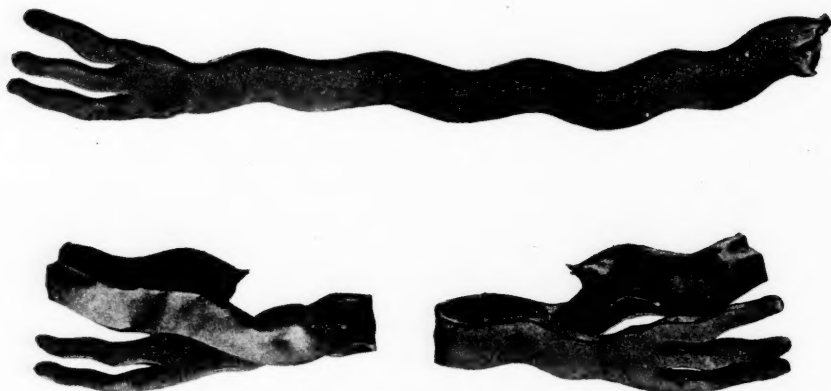
GROUND PLAN OF A HOUSE IN FARA

Tonstein=clay bricks Hof=court, Fenster=fire place, Ziegelverblendung=tile.



GROUND PLAN OF A HOUSE IN ASHUR

a, b. Remains of tile vaults in the foundation. 1, 2. doors in the building.



GOLD REPRESENTATION OF THE LIGHTNING OF THE GOD ADAD

Then came the period in which dwellings were constructed out of hewn stone. In the ruins of these we find the capsule-graves. These buildings were destroyed, and a deep layer of debris collected over them. Through this layer the clay-brick walls of our building were sunk. Over the ruins of this building, was erected a smaller, but still Assyrian, building. Of this latter the entrance-room and bath-room have remained. The latter has the characteristic niche and the asphalt, trough-shaped (for drainage) floor. Over the ruins of all these buildings, lay part of a large Parthian palace, which covered the whole Northeast Plateau, including the ruins of the Ziggurat.

## GOLD COINS

Fifteen well preserved gold coins of the Roman Emperors of the II Century were found. They are all of different impression and may have been a collection.

A few read:

OB. IMPCAESPHELVPERTIN. AVG.  
RE. LAETITIATEMPOR. COSII.

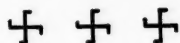
OB. ANTONINVS AVG VSTVS.  
RE. RECTOR ORBIS.

## A GRAVE

In a grave was found a well preserved female skeleton. The bones of former burials were heaped up in a pile to the right of the head. The body lay on the left side, stretched at full length, which is very unusual. A pair of silver ear-rings were found, also a pair of silver snake-shaped rings, used, no doubt, to bind up the long characteristic feminine locks, which hung over the ears. A pearl necklace was found around the neck and a string of larger pearls about the arm.

## A GOLD FIND

At the southeast edge of the small Ziggurra was found a representation in gold of the lightning of the god Adad (Ramman, the thunderer). Different representations of Adad with a three-forked bolt of lightning in his hand, have been found hitherto (see Perrot-Chipiez II p. 643). This bolt of lightning is 45 cm. long and can therefore, have belonged to a life-sized statue of the god. The bolt was cut out of wood and covered with a covering (0.3 to 0.5 mm.) of pure gold. The three-forked end was welded to this covering. One end is broken off, but may have looked like the other. A few bits of the wood are still in the bolt. The whole thing was twisted together twice, no doubt for concealment, by some one who made way with it. The whole weighs about 290 gr. of which about 250 are gold. The value is about 800 marks (\$200).



## ANOTHER ANCIENT FLINT QUARRY NEAR SENECA, MISSOURI

**I** HAVE just discovered, in the region near Seneca, Missouri, an hitherto unreported ancient flint quarry, which, though in a manner belonging to the same group of quarries described in my article in RECORDS OF THE PAST for October, 1905, is on a separate ridge-line and is of such size as to justify special notice. The quarry is situated on Jackson's branch about 7 miles north and  $\frac{3}{4}$  of a mile west of Seneca in Newton County, Missouri, on a low chert ridge which runs northwest from Burkhart Prairie and juts out boldly at the confluence of two narrow valleys. From the base of this point flows a large spring the main head of Jackson's branch.

Having occasion to drive across an old thrown-out field skirting the above point, I noticed numerous white chert flakes and was soon surprised to see, lying about on every side, great numbers of crude and broken flint implements, rejects and hammer stones. At first thought, I presumed this material had been carried from the quarry, some two miles to the southwest in the Indian Territory, but investigation of this ridge-point soon revealed the deep pits and long, winding trenches of an ancient flint quarry between one and two acres in extent.

The point seems to be virtually a solid mass of pure cream white and pink banded homogeneous chert of the upper subcarboniferous age. Scarcely a flaw is found in the beautifully wrought blank blades or great blocks of flint in the pits except where it is seamed by lines of crystal quartz.

The quarry site is covered by heavy timber; some of it showing great age. The mass of the quarried flint seems to have been thrown



or carried to the base of the ridge and taken from thence to the various lodge sites located around the spring in the converging valleys. These sites cover several acres.

As to the antiquity—the quarry looks old—I would judge that it antedated the Indian Territory quarries, but this is mere conjecture, as allowance must be made for the different conditions surrounding the quarries.

Finished flint implements are found on the lodge sites, showing that here as not in the Indian Territory quarries, many implements were finished at once, although, of course, the greater part of the material was simply reduced to blank blades and carried to distant lodges for final elaboration.

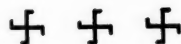
On the lodge sites I found a few deeply weathered stone implements and a broken mill. No doubt further search will yield many interesting specimens.

One can but pause and think how well this site, with its ledges of pure flint, its gushing spring, rich valleys and deep forest teeming with game, fulfilled the simple wants of the aboriginal inhabitant and how happy, in his child-like simplicity, he must have been when his lodges, with the blue smoke curling above them, gleamed through the forest here centuries ago.

The plow has destroyed many interesting lodge sites in the valley, but as this quarry is on rather an inaccessible point we can hope it may escape the despoliation of ignorant miners and hunters for “pots of gold” till the state or nation takes steps to preserve this fine example of prehistoric work.

W. C. BARNARD.

Seneca, Mo.



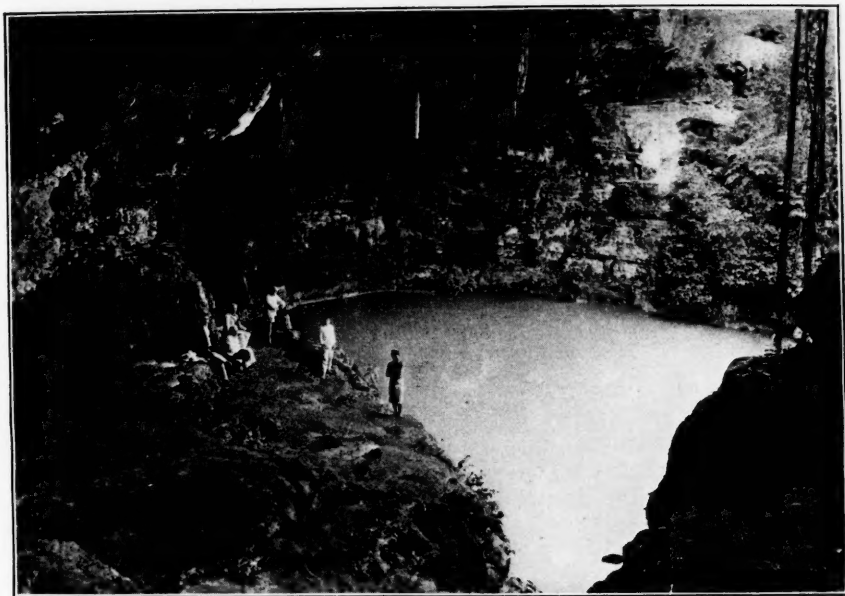
#### THE “CENOTES” OF YUCATAN\*

**Y**UCATAN, Mexico's large peninsula, the old home of the Mayas, and the site of their wonderful ruins would be nothing but a barren desert were it not for its life sending, inexhaustible Cenotes. No large streams, or impetuous rivers cross the vast table land, which thousands of years ago arose from its watery depth, a wonderful structure, built by the tiny zoöphite architects, the coral polyyps.

Rain and wind have smoothed the surface of this great coral rock under which flow subterranean rivers and streams, sometimes breaking out in caves or caverns, or forming natural grottoes, which the Mayas called “Cenote” (or Zenote) water-cave.

Carefully studying the course of the subterranean rivers, the Mayas marked the place where a grotto or cave was visible, and there they erected their cities.

\* Adapted to the English from *Mexico al Traves de los Siglos*.



CENOTE NEAR UXMAL

Many Cenotes exist still amongst the old ruins, either in the center of a town, or on the outskirts, but always at a place easily accessible to the thirsty. Some are entered by stone steps, as the Cenote of "Mucuyche" in Uxmal, which is about 40 feet deep and many fish are found there—the Cenote fish,—said to be blind, like those in other subterranean waters.

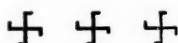
The Cenote shown in the accompanying illustration is also in Uxmal, about an hour and a half from the town of Uxmal, a landmark of a former city.

One of the largest Cenotes is found in the village of Bolonchen—Nine Wells, called so for the 9 natural springs, which are in the center of the Cenote. Those 9 openings are nothing but perforations in the rocks receiving their water from some unknown cave, nature's reservoir of the rain water. A very narrow and steep path leads into it, and the light of day soon disappears to those who enter it. To make the descent into this cavern possible, the Indians constructed a very crude ladder, by tying the trunks of big trees together, utilizing their whole length, to make this ingenious structure as wide as possible. It is arranged in such a manner, that only one half is used for the descent and the other for the ascent of the "aguadores" (water carriers). The extremes of the trunks rest on the rocks or are sustained by big rafters. From the entrance of the Cenote, down to the 9 springs is a distance of 1400 ft., although the perpendicular depth is said to be only 500 ft.

Many traditions and legends exist among the Mayas about the origin of these Cenotes. They believe, that Bolonchen is the place, where a jealous mother once hid her beautiful daughter from her lover, so that he roamed in vain all over the land, without finding her hiding place. What became of the lovers, tradition does not tell, but since then the Cenote is called "Xtucumbi-Xunan," the hidden lady.

SRITA. NATALIE VON SCHENCK.

LOS ARCOS, MEXICO.



#### PALESTINE EXPLORATION FUND

THE advance of the railroad southward from Damascus toward Mecca may be delayed as to its completion for many years, but it has already had some effect upon Jerusalem, which is interested in being connected by that means more closely with Damascus than ever before. We hear that a new bridge is to be thrown across the Jordan and that it will be connected with a new road.

There have been several bridges across the Jordan near the Jericho fording-place, but they have never been properly constructed to endure the spring floods. The last one was set high above the stream but the piers on which its ends rested were not well constructed and soon became weakened. As for proper stone abutments, nothing of the kind was built.

It is now proposed to have a substantial bridge of five spans, long enough to cover the full channel and well furnished at either end with permanent approaches. It would be a singular joining of the old and the new, if an American bridge should be placed over the Jordan at or near the point where the Israelites entered the land, where the Baptist began his ministry, and where our Lord was baptized.

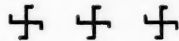
The development of wheel roads in Palestine began only a generation ago, with the construction by the French of the magnificent road from Damascus to the sea, and by the Turkish government of that from Jaffa to Jerusalem. But then came one to Hebron and then one to Jericho, and then some pieces of road were built in Galilee, and so every year now sees progress. In a few years the riding parties and the tents will be things of the past.

Some rare books on Palestine can now be obtained by writing to the home office at 38 Conduit St., London, W. and I mention a few which are seldom for sale: Robinson's *Biblical Researches*, Burton's *Land of Midiaro*, Thos. Wright's *Early Travels in Palestine*, Burckhardt's *Travels*, Van de Felde's *Jerusalem*, Lynch's *Dead Sea*, Warren's *Underground Jerusalem*, Merrill's *East of the Jordan*, Porter's *Giant Cities of Bashan*, De Saulay's *Journey*, Tristram's *Journal*.

For several years the rainfall in Palestine has been carefully noted and has shown an increase, but of course with a bad shrinkage now and then. The rain began in 1904, after the usual long months of drought on October 22 and kept up well into March. April had the latter rain of half an inch. There were 63 rainy days in all and the rainfall was 23.5 in., 8 in. more than in the preceding year, which had but 44 wet days.

THEODORE F. WRIGHT,  
Hon. General Secretary for U. S.

42 Quincy St.,  
Cambridge, Mass.



## BOOK REVIEWS

### EXCAVATIONS AT NIPPUR

**P**ART I of the report of the Babylonian Expedition of the University of Pennsylvania on the Excavations at Nippur has just appeared, and does high credit to both the University and the author of the text, Clarence S. Fisher. This part deals with the physical features of Babylonia, and the topography of Nippur and its walls.

The relation which geology bore to the early civilization in this region is well summed up by Mr. Fisher.

This deposit [yellow clay mixed with sand of which the delta is formed] played an important role in the development of the country, entering in some way into nearly every phase of Babylonian life. In the first place the combination of clay, chalk and sand made an unusually rich and fertile soil, so that the valley eventually became famous as one of the most productive and hence richest countries of the ancient world, in many ways the successful rival of Egypt. But of more importance to us from an archaeological standpoint is the fact that this clay was adapted particularly for building purposes. The civilization and culture consequent upon the growing power and wealth of the people created the desire for extensive buildings of various kinds, and developed an ingenious and highly efficient system of construction, based solely on the use of clay. In buildings it was used for floors and roofs as well as for walls. In this case it was laid up *en masse* or moulded into bricks and tiles used in their crude sun-dried condition or fire-baked. Out of it were made pipes and conduits of many sizes and patterns for the conveyance underground of water to different parts of the houses and through the towns; and also for the carrying away of household wastes. In addition to these uses of clay there was its

employment for literary purposes. Carefully cleaned, by washing, of the sand and other impurities and then shaped into tablets and cylinders, it became the medium for recording the history, literature and even the letters and commercial transactions of the everyday business life of the people.

The rise and decline of cities due to the changing course of the Tigris and Euphrates rivers, the introduction of canals as a last resort to preserve their commercial importance, and the evidence furnished by ancient maps and designs on clay tablets which have been discovered indicating these changes and the approximate dates, are described.

Nippur, like our modern cities, was composed of two parts, an up-town and a suburban district. The substantial official section or inner city is the part represented by the present mounds. The less solidly built residence section of the well-to-do class has left but few remains, while the huts of the poor, being made largely of reeds, have left no signs of their existence.

For a description of the inner city and its walls we must refer you to the volume itself, in which the magnificent plate illustrations, maps and diagrams, taken in connection with the text, give as clear an idea of the excavated ruins as can be gained without actually visiting them under the guidance of one as familiar with the work as Mr. Fisher.

There are 5 parts to follow, the second is on the Fortress; the third on The Early Strata in the Temple Area and the Temple of Bel; the fourth on the Ruins of Tablet Hill and Miscellaneous Constructions; the fifth on The Palace and the sixth on Pottery and Burial Customs. From this outline it will be seen that the complete series will be valuable as a record of the discoveries in this most interesting of ancient cities—Nippur.

The advance sheets of Part II on *The Fortress* show that this section of the work is of equal if not greater interest than the first. Among the interesting points brought out are: The development of the corrugated bricks used in the North or the Ur Gur wall; the peculiar thick walled rooms found along the inner side of the wall; also a full description, accompanied by diagrams, of an ancient kiln for baking pottery which differs very little from those in use at the present time.

The requirements of the specialist are satisfied in this work by all the exact details of the walls and buildings while the needs of the larger class of lay readers are not lost sight of, but information of a general character is interwoven with the more technical material.

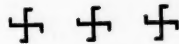
### THE WISCONSIN ARCHAEOLOGIST

The first Archæological Bulletin of the Wisconsin Archæological Society, issued under the auspices of the State has recently appeared. It is devoted to a discussion of the *Aboriginal Pipes of Wis-*



*consin*, by Geo. A. West and accompanied by a large number of illustrations showing a remarkable variety in the style and designs of these pipes.

In the introduction Mr. West devotes a few pages to the aboriginal trade among the Indians of Wisconsin. Evidences of the extent of this trade are seen in the copper implements from the Lake Superior region; obsidian implements, of which P. V. Lawson has listed 50, which must have come from the Rocky Mountains; a specimen of amazon stone from the Rocky Mountains; and specimens of bone evidently from the tribes of Indians along the Northwest Coast, and other foreign objects, which are found scattered through the State in the numerous mounds. There are pipes whose form is typical of New England and Tennessee which are figured and described in the Bulletin.



## EDITORIAL NOTES

**HISTORICAL RELIEF IN PALAZZO SACCHETTI:**—This relief represents the emperor Septimius Severus presenting his son Caracallus to the Senate and may prove to have dated from the time of Septimius Severus.

**THE EXCAVATION OF HERCULANEUM:**—The central commission of archæology at Rome have decided to found, under the direction of Mr. Waldstein an international society for the purpose of excavating Herculanæum. This project has been approved by the Italian Government.

**MANDAN REMAINS IN NORTH DAKOTA:**—Since the article on *Mandan Remains In North Dakota*, which appeared in RECORDS OF THE PAST for December, the State Historical Society of North Dakota has brought to our attention one or two further facts which are of interest. They report that some lodge circles have been noted which average 40 ft. in diameter while some of the Medicine lodges in other villages than that described in our December, 1905 issue are as much as 60 and 70 ft. in diameter. Some of the mounds on the outer edge of the village site were artificially fortified with projecting bastions. The length of time which this Mandan village was inhabited is estimated at 10 years on the basis that every layer of charred corn-cobs intermixed with ashes and soil represents one year.

The village itself was abandoned 20 years previous to the Lewis and Clark visitation, on a quarrel between the Mandans and Arikaras. Lewis and Clark camped on top of the hill above the Indian village towards the southwest where Fort Hancock was built in 1872, an infantry post, while Fort Lincoln—a cavalry post, was built one

year later on the flats below the hill and southeast of it. It was Lewis and Clark's fourth camp in North Dakota. The Mandans cultivated corn, beans and melons. Charred corn-cobs as well as the shells of melon seeds are found in the rubbish heaps.

MOUNDS NEAR ALBERT LEA, MINN:—Mr. D. R. P. Hibbs has called our attention to 5 distinct mounds on the shore of a lake about 5 miles from Albert Lea. One or two of these have been opened, at times, in a crude way and disclosed remains of a race of people,—whether Indian or an earlier race has not been determined. He says that: "About 6 ft. from the top on a level with the general surface of the ground there is found a layer of bones, of about 3 inches in general thickness, among which are bones of men, women and children, all placed there at the same time, as would appear, from the fact that all the bones are in this one layer. There are 5 such mounds on the top of a hill, from which undoubtedly a great deal of dirt has been washed down, the circles being contiguous, and in a line.

"From the fact that the Sioux did not bury their dead, it would seem that they might have ante-dated them. One specimen that I obtained had perfect teeth, but the front teeth were all flat and broad on the surface. I never heard of any implements being found. Some advance the theory that there had been a great battle and all these people had been killed and then buried at once,—too many for an overhead burial. These mounds are about 20 to 25 ft. in diameter at the base."

EXCAVATIONS AT MOUNDVILLE, ALABAMA:—In an exceedingly interesting article in *Harper's Magazine* Mr. H. Newell Wardle gives the results of the excavations, near Moundville, Alabama, carried on in the spring of 1905 by Mr. Clarence B. Moore, for the Academy of Natural Science of Philadelphia. The smaller mounds found here are arranged in an elongated circle with the shorter diameter extending east and west. Four "great structures form a triangle in the north with its apex resting on the center of the circumscribed plain and its lateral elevations in the line of the oval." The whole area is a vast cemetery.

The site is evidently of very ancient occupation, for in many cases a black line in the soil or a bone or two and some ornaments is all that is left to mark a burial. There are no indications of trade with white men so this site must have been abandoned before the white men appeared.

As most of the implements found are of a peaceful or ceremonial nature, this seems not to have been a war encampment. Many gorgets, cups, bottles, bowls, and pendants of copper were found as well as vases and hair ornaments. The most important of all is the stone vase of the crested wood-duck. It is carved from diorite and is 11  $\frac{1}{2}$  in. in diameter. The head and neck of the bird form the handle. The conventional flat tail juts out horizontally from the opposite side.

